Cl.1, 1.55 – Cl.2, 1.20:

A pedicle screw 1 depicted in the drawing comprises a shaft 2
with an external thread not shown in the drawing and a head 3
with central U-shaped recess 4 for accommodation of a stiffen-
ing rod 5, the recess being limited by U-legs 6, 7 having an
internal thread 8 on the inner side.

For the fixation of the stiffening rod 5 in the recess 4 a
fixation screw 9 formed as a set screw is provided with an ex-
ternal thread 10 which corresponds to the internal thread 8 of
the head.

As has been already mentioned a problem exists when tightening
the fixation screw 9 in that in the case of the conventionally
shaped pedicle screws the U-legs 6, 7 of the screw head 3 can
be pressed outwards, resulting in a reduction of the retention
force or makes it necessary to provide sleeves or similar de-
vices to be put on.

The threads 8, 10 according to the invention avoid this prob-
lem. In Fig. 3 a saw tooth thread 10 according to the inven-
tion is depicted as an enlarged section of the threaded part
shown on the right side of Fig. 2. It can be seen therefrom
that the thread flank 11 which serves as support and load
bearing surface during tightening of the fixation screw 9 re-
bounces by an angle β with respect to the radial direction 12.
In Fig. 3 the following is depicted: The force component
F_{normal} acting perpendicularly onto the flank 11, the force com-
ponent F_{axial} acting in axial direction of the pedicle screw and
a resulting force component acting radially inwards F_{radial},
i.e. a force component which compresses, in contrast to the

pedicle screws according to the prior art, these inwards. For the radial component F_{radial} follows: $F_{radial} = F_{axial} * \tan \beta$.